Trophoblastic tumors

Uterus tumor course – Oslo, 21-22/1/16

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Cases

- 45
- 38
- 39
- 4
Case 45

- 40-years old woman
- Post-coital bleeding
- Cervical curettage
DIAGNOSIS: PLACENTAL SITE NODULE
Suggested diagnoses

- Placental site nodule (16)
- Placental site nodule? Other trophoblast tumor? Carcinoma with necrosis? (1)
- Placental site nodule vs. ETT (1)
- Degenerated hyalinized placental tissue (1)
- Decidua (1)
- Connective tissue with atypical cells (1)
- Hyaline change or necrosis; R/O carcinoma and/or amyloidosis (1)
- Sarcoma (1)
- Small cell carcinoma (1)
Placental site nodule

- Chorionic-type intermediate trophoblast; Benign counterpart of ETT
- Often incidental finding (other: bleeding, retained products of gestation, infertility)
- Majority in corpus or cervix, some in tube
- Previous abortion, C-section, tubal ligation
- Small (1-14 mm, average 2.1)
- Atypia; low mitotic count
- p63-positive, low Ki-67 count, focal hPL and CD146, negative MUC4
- Atypical placental site nodule dx for more cellular and proliferative lesions
Differential

- ETT (size, necrosis, cellularity, calcification, cyclin E IHC)
- PSTT (size, cellularity, circumscription)
- Carcinoma (IHC)
Placental site nodule
Case 38

- 28-years old woman, pregnant, 18+4 weeks
- Clinically suspected mole
- HCG = 11,111
- Corpus curettage
Suggested diagnoses

- Complete mole (18)
- Mole, possibly complete (1)
- Mole (4)
- Partial mole (1)
Complete mole

- Geographic variation (3.8-13/1000 in SE Asia, 0.5-1.84 in U.S. and Europe)
- Risk factors: Age (<15 or >40), Asian, previous mole
- Earlier detection
- Usually vaginal bleeding/abortion
- HCG >100,000 and pre-eclampsia require investigation (other: hyperthyroidism, enlarged ovaries with lutein cysts, hyperemesis, PE)
- Snow-storm pattern by US
- Usually no fetal parts or placenta
- Diploid all-paternal kariotype
- Clinical follow-up to r/o persistent GTD and choriocarcinoma
Differential

- Partial mole
- Hydropic chorionic villi

Based on:
- p57
- Ploidy
- Genetic analysis
Cell Type(s) 1 & 3 & 4: Mean: 567.14, CV: 1.89, Sel/CurGal: 0.00%, DI: 1.00, 5CER: 8.29%, 9CER: 1.35
Complete mole
Partial mole
Triploid

Cell Type 1: Mean: 776.04, CV: 2.90, Sel/CurGal: 64.60%, DI: 1.50, 5CER: 12.79%, 9CER: 0.18

Cell Type 1: Mean: 514.38, CV: 3.86, Sel/CurGal: 14.25%, DI: 1.00, 5CER: 12.96%, 9CER: 0.19

Integrated Optical Density

Number of Nuclei
Case 39

- 53-years old woman
- Complete mole diagnosed 2 months previously
- Hysterectomy
DIAGNOSIS: INVASIVE MOLE
Suggested diagnoses

- Invasive mole (13)
- Mole? (1)
- ETT (1)
- Placental rests, possibly placenta increta (1)
- Mole with cystic degeneration vs. choriocarcinoma (1)
- Choriocarcinoma (1)
- Smooth muscle tumor with necrosis; atypical cells (1)
- Intravascular leiomyomatosis (2)
- Clear cell carcinoma (1)
- Sarcoma (1)
- ? (1)
**Invasive mole**

- Complete or partial
- Bleeding and persistent HCG
- Hydropic villi infiltrating myometrium and vessels; perforation possible
- Extra-uterine disease in 20-40% (lung and genital)
- Chemotherapy

**Differential:**
- Placenta increta or percreta
- Choriocarcinoma (clinically)
Trophoblastic proliferation – invasive mole
Case 4

• 54-years old woman
• History: Two normal pregnancies; CIN3; simple hyperplasia in endometrium
• Repeated bleeding
• Cervical tumor diagnosed as squamous cell carcinoma in another hospital
DIAGNOSIS: CHORIOCARCINOMA
Suggested diagnoses

- Choriocarcinoma (12)
- Choriocarcinoma vs. squamous cell carcinoma (1)
- Choriocarcinoma vs. undifferentiated carcinoma (1)
- Undifferentiated malignant tumor, possibly choriocarcinoma (1)
- Squamous cell carcinoma (3)
- Squamous cell carcinoma or glassy cell carcinoma (1)
- Large cell neuroendocrine tumor? (2)
- Poorly differentiated malignant tumor (1)
- Poorly differentiated malignant tumor; large cell NE ca.? (1)
- Poorly differentiated tumor, possibly biphasic (1)
- Poorly differentiated tumor; carcinosarcoma? (1)
Choriocarcinoma

- Majority pre-menopausal
- Female or male genotype
- Most often after abnormal pregnancy (50% mole, 25% abortion, 22.5% normal pregnancy, 2.5% ectopic)
- Latency and delay in post-partum cases
- Vaginal bleeding; may present with hemorrhage in metastases or thyrotoxicosis
- Chemotherapy
FIGO CANCER REPORT 2012

Trophoblastic disease


Table 1
FIGO staging of trophoblastic tumors.

<table>
<thead>
<tr>
<th>FIGO Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Gestational trophoblastic tumors strictly confined to the uterine corpus</td>
</tr>
<tr>
<td>II</td>
<td>Gestational trophoblastic tumors extending to the adnexae or to the vagina, but limited to the genital structures</td>
</tr>
<tr>
<td>III</td>
<td>Gestational trophoblastic tumors extending to the lungs, with or without genital tract involvement</td>
</tr>
<tr>
<td>IV</td>
<td>All other metastatic sites</td>
</tr>
</tbody>
</table>

Table 2
FIGO/WHO scoring system based on prognostic factors.

<table>
<thead>
<tr>
<th>FIGO/WHO risk factor scoring with FIGO staging</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>&lt;40</td>
<td>&gt;40</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Antecedent pregnancy</td>
<td>Mole</td>
<td>Abortion</td>
<td>Term</td>
<td></td>
</tr>
<tr>
<td>Interval from index pregnancy, months</td>
<td>&lt;4</td>
<td>4–6</td>
<td>7–12</td>
<td>&gt;12</td>
</tr>
<tr>
<td>Pretreatment hCG mIU/mL</td>
<td>&lt;10⁴</td>
<td>&gt;10³–10⁴</td>
<td>&gt;10⁴–10⁵</td>
<td>&gt;10⁵</td>
</tr>
<tr>
<td>Largest tumor size including uterus, cm</td>
<td>–</td>
<td>3–4</td>
<td>≥5</td>
<td>–</td>
</tr>
<tr>
<td>Site of metastases including uterus</td>
<td>Lung</td>
<td>Spleen, kidney</td>
<td>Gastrointestinal tract</td>
<td>Brain, liver</td>
</tr>
<tr>
<td>Number of metastases identified</td>
<td>–</td>
<td>1–4</td>
<td>5–8</td>
<td>&gt;8</td>
</tr>
<tr>
<td>Previous failed chemotherapy</td>
<td>–</td>
<td>–</td>
<td>Single drug</td>
<td>Two or more drugs</td>
</tr>
</tbody>
</table>
Differential

- Normal pregnancy
- Mole
- ETT and PSTT
- High-grade carcinoma, including HCG-producing carcinoma
- Melanoma
- Sarcoma
- Other trophoblastic tumors
- Other cancers
Choriocarcinoma
Thank you for your attention